



VIS-CATC-A Camera Auto Tracking Controller

User Manual

V2.0









VISSONIC ELECTRONICS LIMITED


The meaning of symbols

■ Safety instructions

For your safe and correct use of equipments, we use a lot of symbols on the equipments and in the manuals, demonstrating the risk of body hurt or possible damage to property for the user or others. Indications and their meanings are as follow. Please make sure to correctly understand these instructions before reading the manual.

	This is A level product, which may cause radio interference in the living environment. In this case, users may need to take the feasible measures to get around the interference.
	Remind users that the dangerous voltage without insulation occurring within the equipment may cause people suffer from shock.
	CE certification means that the product has reached the directive safety requirements defined by the European Union. Users can be assured about the use of it.
	SGS certification means that the product has reached the quality inspection standards proposed by the world's largest SGS.
	This product passed the ISO9001 international quality certification (certification body: TUV Rheinland, Germany).
	Warning: in order to avoid electrical shock, do not open the machine cover, nor is the useless part allowed to be placed in the box. Please contact the qualified service personnel.

■ General information instructions

	It lists the factors leading to the unsuccessful operation or set and the relevant information to pay attention.
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Important note



Warning

In order to ensure the reliable performance of the equipment and the safety of the user, please observe the following matters during the process of installation, use and maintenance:

The matters needing attention of installation

- ◆ Please do not use this product in the following places: the place of dust, soot and electric conductivity dust, corrosive gas, combustible gas; the place exposed to high temperature, condensation, wind and rain; the occasion of vibration and impact. Electric shock, fire, wrong operation can lead to damage and deterioration to the product, either;
- ◆ In processing the screw holes and wiring, make sure that metal scraps and wire head will not fall into the shaft of controller, as it could cause a fire, fault, or incorrect operation;
- ◆ When the installation work is over, it should be assured there is nothing on the ventilated face, including packaging items like dust paper. Otherwise, this may cause a fire, fault, incorrect operation for the cooling is not free;
- ◆ Should avoid wiring and inserting cable plug in charged state, otherwise it is easy to cause the shock, or electrical damage;
- ◆ The installation and wiring should be strong and reliable, contact undesirable may lead to false action;
- ◆ For a serious interference in applications, should choose shield cable as the high frequency signal input or output cable, so as to improve the anti-jamming ability of the system.

Attention in the wiring

- ◆ Only after cutting down all external power source, can install, wiring operation begin, or it may cause electric shock or equipment damage;

- ◆ This product grounds by the grounding wires. To avoid electric shocks, grounding wires and the earth

must be linked together. Before the connection of input or output terminal, please make sure this product is correctly grounded;

- ◆ Immediately remove all other things after the wiring installation. Please cover the terminals of the products cover before electrification so as to avoid cause electric shock.

Matters needing attention during operation and maintenance

- ◆ Please do not touch terminals in a current state, or it may cause a shock, incorrect operation;
- ◆ Please do cleaning and terminal tighten work after turning off the power supply. These operations can lead to electric shock in a current state;
- ◆ Please do the connection or dismantle work of the communication signal cable, the expansion module cable or control unit cable after turning off the power supply, or it may cause damage to the equipment, incorrect operation;
- ◆ Please do not dismantle the equipment, avoid damaging the internal electrical component;
- ◆ Should be sure to read the manual, fully confirm the safety, only after that can do program changes, commissioning, start and stop operation.

Matters needing attention in discarding product

- ◆ Electrolytic explosion: the burning of electrolytic capacitor on circuit boards may lead to explosion;
- ◆ Please collect and process according to the classification, do not put into life garbage;
- ◆ Please process it as industrial waste, or according to the local environmental protection regulations.

Preface

This manual mainly describes the use, performance parameters and troubleshooting of VIS-CATC-A camera auto tracking controller.

If the technical parameters and system usage in this manual are changed, the manufacturer will update the version of the manual. Please use the latest user manual.

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Version	Update	Date
1.0	released	2018.12.28
2.0	Update interface and web function	2023.7.28

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1. Function

VIS-CATC-A camera auto tracking controller has 4 channels of high-definition SDI input, 2 channels of high-definition HDMI input, 2 channels of high-definition HDMI output, supports buttons, RS232 control, Ethernet control, web page control, etc., and can realize camera tracking, seamless switching, Screen freezing, audio and video scale conversion functions.

2. Specifications

The Specification of VIS-CATC-A are as follows:

- a) **Video input port:** 4-channel SDI HD interface; (SDI supports 3G-SDI and HD-SDI; supports digital audio input)
- b) **Video input port:** 2-channel HDMI HD interface; (HDMI supports 1080P60Hz downward compatibility; supports digital audio input)
- c) **Video input port:** 2-channel HDMI HD interface; (HDMI supports 1080P60Hz downward compatibility; supports digital audio output)
- d) It has a picture freezing function, which can be set according to the rotation and focusing time of different cameras.
- e) Compatible with VISSONIC series conference system, support camera tracking function.
- f) Video signal input to output seamless switching, no black screen, tearing.
- g) Supports quick configuration of video signal switching through the web GUI.
- h) **Power consumption:** 12W
- i) **Power supply:** AC 100-240V 50-60 Hz
- j) **Temperature/Humidity:**
Storage: -40 to +158 °F (-40 to +70 °C)/10% to 90%, non-condensing;
Operating: +32 to +122 °F (0 to +50 °C)/10% to 90%, non-condensing.
- k) **Installation:** 19-inch rack cabinet Installation, 1U
- l) **Dimensions (L × W × H):** 483 × 260 × 43.6 mm
- m) **Weight:** 3kg
- n) **Color:** black

3. Front and rear panel description

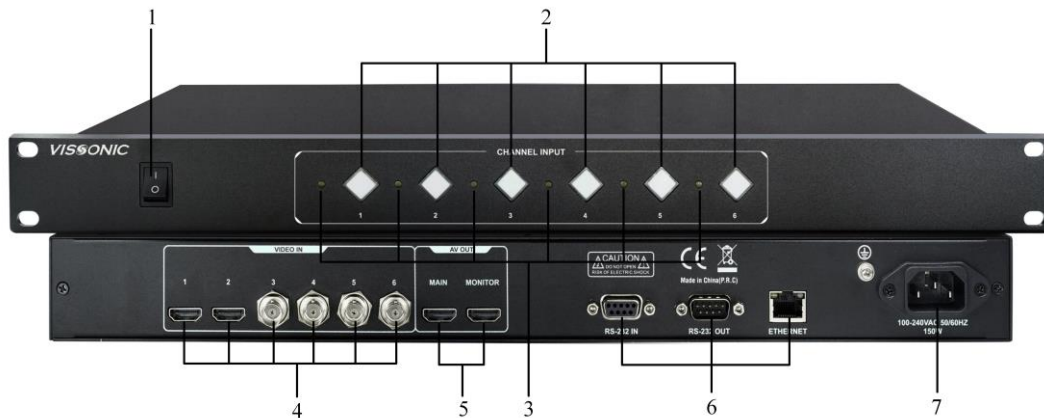


Figure 3 VIS-CATC-A front and rear panel

The front panel of camera auto tracking controller includes:

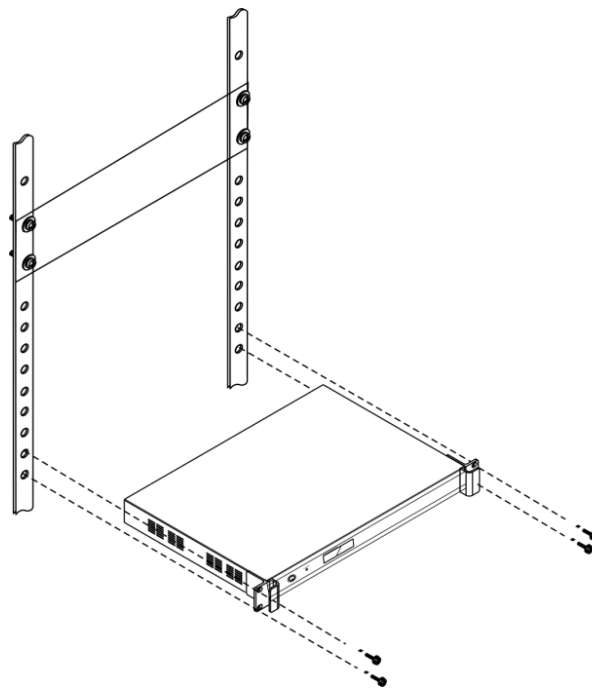
1. **Power switch** - turn the power of the camera tracking controller on or off
2. **Control button** - 1 - 6 button corresponds to 1 - 6 HDMI and SDI input channels, can switch any 1 HDMI or SDI input signal to HDMI output
3. **Input signal indicator** - 1 - 6 indicator corresponds to 1 - 6 HDMI and SDI input channels
4. **Input port** - support 2 channels of high-definition HDMI and 4 channels of high-definition SDI signal input
5. **Output port**: support 2 channels of high-definition HDMI signal output
6. **Control port** - RS-232 female, RS-232 male and RJ45 Ethernet is used to connect the full digital network DSP conference controller for video switching control of camera tracking or connect the computer for control
7. **Power input port** - connect the camera tracking controller to the power sequencer or plug-in with the power cable to supply power to the camera tracking controller

*(HDMI and SDI input interface supports digital audio input, HDMI output interface supports digital audio output)

4. Installation

4.1 19-inch installation cabinet

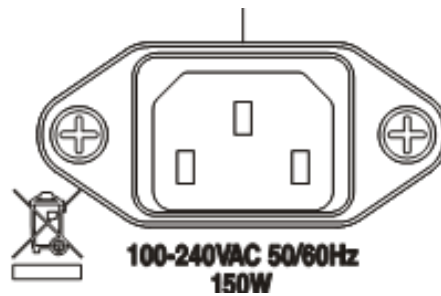
The main unit can be installed in a 19-inch standard cabinet with standard mounting screw holes.



5. Connection

5.1 Power supply

Connect the main unit to an external power outlet using the supplied power cord.



Warning: The controller power supply needs to be well grounded to avoid causing fatal accidents.

5.2 RS232 control interface



Figure 5.2.1 RS232 female

It is used to connect the digital network DSP conference main unit for video switching control of camera tracking or connect the computer for control.

The COM port pins are defined as follows:

Pin	Signal	Description	Pin	Signal	Description
1	-	Null	6	-	Null
2	TXD	Send data	7	-	Null
3	RXD	Receive data	8	-	Null
4	-	Null	9	-	Null
5	GND	Signal ground			



Figure 5.2.2 RS232 male

The COM port pins are defined as follows:

Pin	Signal	Description	Pin	Signal	Description
1	-	Null	6	-	Null
2	RXD	Receive data	7	-	Null
3	TXD	Send data	8	-	Null
4	-	Null	9	-	Null
5	GND	Signal ground			

Serial port default settings:

Baud rate: 9600bps, Parity: 8, Stop: 1

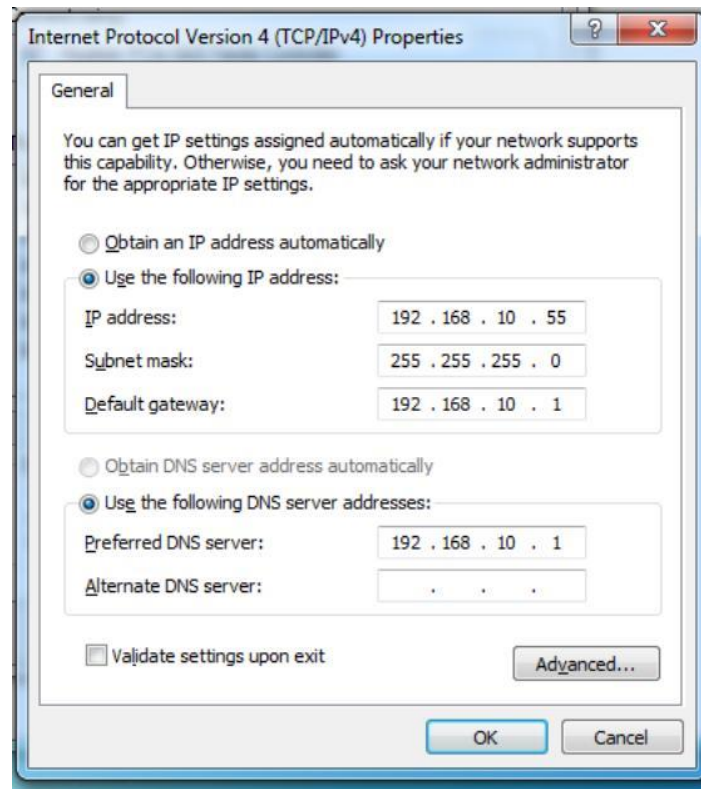
Serial control command table:

Instruction	Function	Return Information	Example
[x]V[y].	[x] input to [y] output, video switching	V:[x] -> [y]	
FREEZE[x].	Set the screen freeze time to x seconds	FREEZE[x].	[x] Unit:second
SetFreeze.	Perform screen freeze		
<^NET>	Query network parameters	<SPORT80> <SIPR[X1].[X2].[X3].[X4]> <GAR[X1].[X2].[X3].[X4]> <SUBR[X1].[X2].[X3].[X4]> <SHAR[X1]:[X2]:[X3]:[X4]:[X5]:[X6]>	
<#SIPR[192].[168].[10].[189]>	Set IP address	<SIPR:[X1].[X2].[X3].[X4]>	
<#GAR[192].[168].[10].[1]>	Set gateway	<SUBR:[X1].[X2].[X3].[X4]>	
<#SUBR[255].[255].[255].[0]>	Set subnet mask	<GAR:[X1].[X2].[X3].[X4]>	
<#SHAR[00]:[01]:[28]:[00]:[00]:[01]>	Set hardware address(hex)	<SHAR:[X1]:[X2]:[X3]:[X4]:[X5]:[X6]>	
<#NETDEFAULT>	Network restore factory settings		

6. Web Control

Network port default IP: 192.168.10.189. The steps of web page control are as follows:

1. Connect your PC to the Ethernet port of the camera tracking controller through a CAT5 cable.
2. Please set your computer to the following IP network segment.



3. Log in to the webpage, enter the IP address 192.168.10.189, and if you can log in to the screen in Figure 6, it means that the connection is successful. Click "Video" to control the signal switching of the camera tracking controller on this page.
- Signal switching screen as shown in the figure below

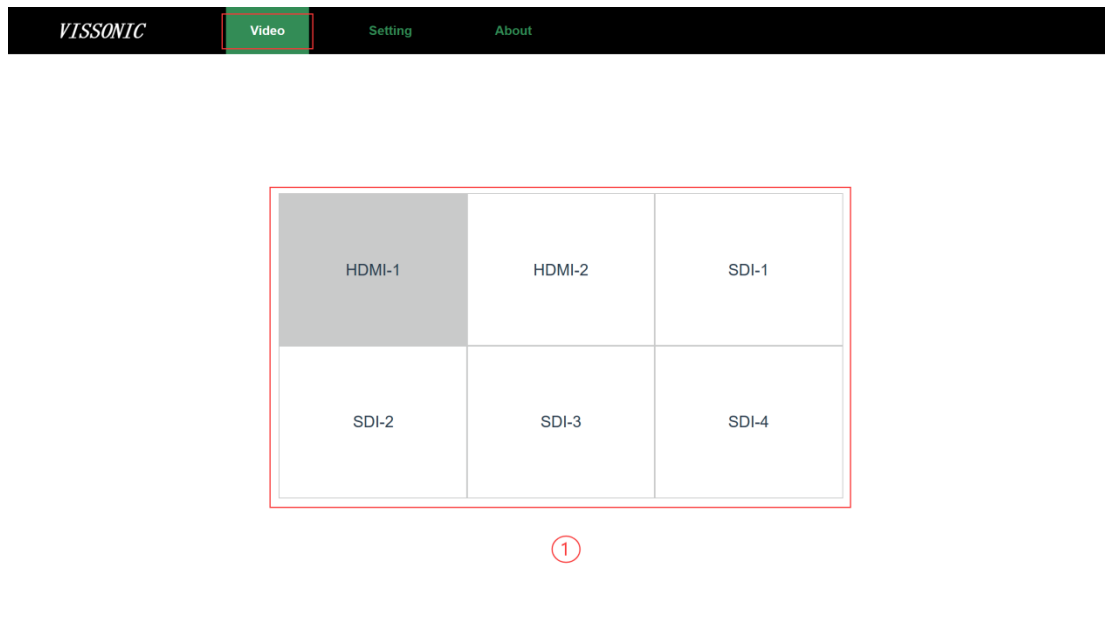
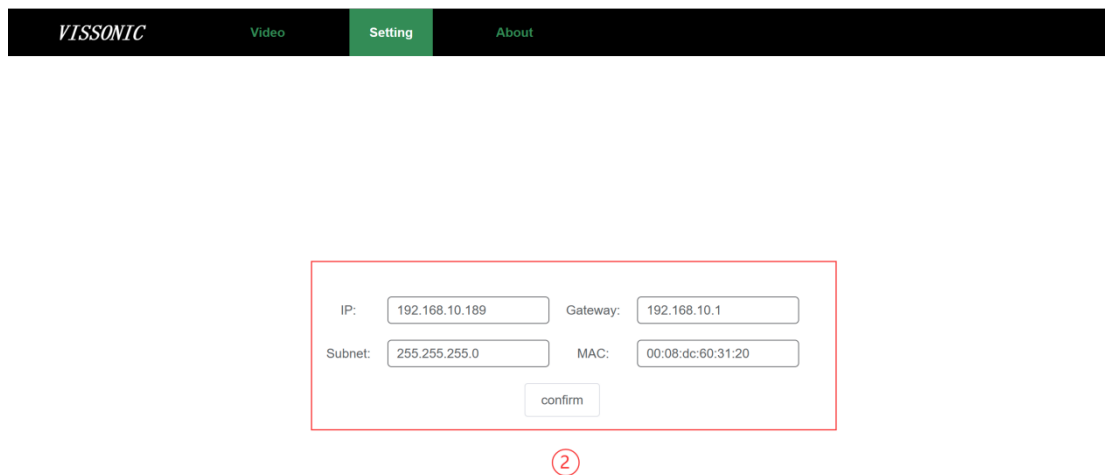


Figure 6

The above ① is the list of video input signals of the camera auto tracking controller. Note that the two output channels output the same signal.

- Modify camera auto tracking controller IP

1. Click “Setting” to enter the following screen.

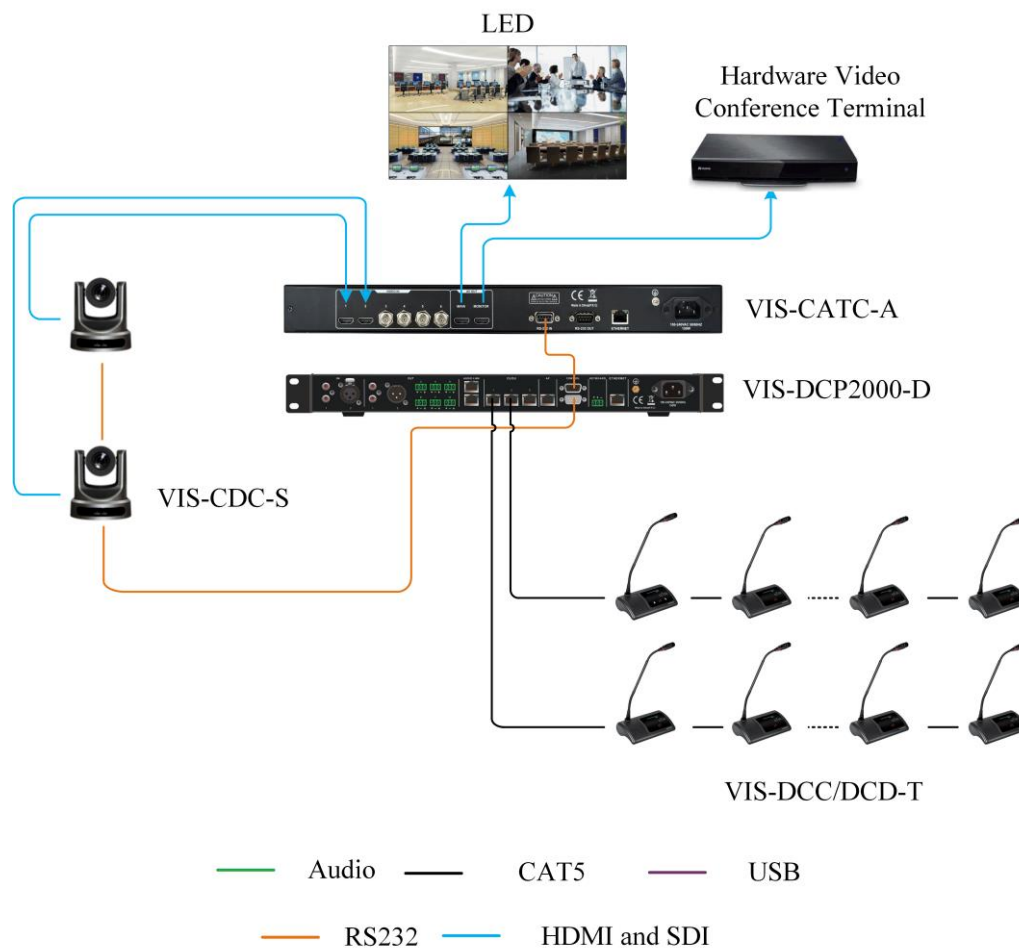


2. In the above ②, you can customize and modify the network IP. After completing the modification, restart the camera auto tracking controller.

- Version query: Click "About" to enter the following screen, and check the version information at ③.



7. System connection diagram



7.1 Camera RS232 cascade control line connection method



PIN1.....DTR; PIN2.....DSR; PIN3.....TXD; PIN4.....GND; PIN5.....RXD;
PIN6.....GND ; PIN7.....IROUT; PIN8.....NC

7.2 Conference Controller--Camera Tracking Settings

Enter the menu 'CAMERA' to set the parameters of the camera tracking.

Menu item	Parameter	Parameter value	Description
Protocol	-	SAMSUNG, PELCO-D, VISCA, CUSTOM, VCA-UDP	Select a protocol for the communication between the conference controller and a camera according to the camera in use. If a third-party central controller is used, select "CUSTOM" and no longer need to set "Camera map" and "Start Set".
Camera map	Camera select	001 to 016	Camera select: Select a camera. Up to 16 cameras are supported. Camera addr: Set the address of the camera selected in "Camera select". Need to set a camera address for the SAMSUNG and PELCO-D protocols. If the selected protocol is VISCA, set the parameter to Off. Video channel: Bind the current camera address. If no video matrix switch is connected to the conference controller, set the parameter to Off. Note: Repeat the following operations to set the next camera: "Camera Select"→"Camera addr"→"Video channel". The conference controller records the parameter settings of each camera.
	Camera addr	Off, 001 to 255	
	Video channel	Off, 001 to 255	
	UDP addr	Off, 001 to 255	UDP addr: Bind the IP address of a network camera. If the selected protocol is VCA-UDP, the camera IP address is required.
Start Set	-	01 to 16	Select the current camera (No. 01 to 16), and then set the microphone position of each unit for tracking. The steps are as follows: Step 1: Set the parameter to "01", which corresponds to camera 01. Step 2: Use the remote control to adjust the camera to track the microphone of

			<p>the first unit in the camera coverage.</p> <p>Step 3: Press the on/off button of the photographed microphone.</p> <p>Step 4: Use the remote control to adjust the camera to track the microphone of the next unit in the camera coverage.</p> <p>Step 5: Press the on/off button of the photographed microphone.</p> <p>Step 6: Repeat Step 4 and Step 5 to set all microphones in the coverage of camera 01.</p> <p>Step 7: Set the parameter to "02", which corresponds to camera 02.</p> <p>Step 8: Execute Step 2 to 6 to complete the setting of camera 02. Complete the tracking settings for all the other cameras in the same way.</p> <p>Step 9: After setting the last camera for the microphone of the last unit, adjust the camera to get a panoramic view of the conference and then press "ESC" to exit the "Start Set" menu. The panoramic view is called when the microphones of all units are turned off.</p>
Freeze Time	-	00s to 30s	Delay time needed for the camera tracking controller to switch the camera view. The delay time ranges from 0 to 30 seconds.
Video Mode	-	Normal/Recorder	Two video modes are optional. Select "Recorder" when VIS-CRS02/03/04/05B or VIS-CRS02/03/05A is used.
Camera Track	-	On/Off	Enables or disables the camera tracking feature.

Table 7.2 "CAMERA" menu list of VISSONIC conference controller

The following example shows how to set two cameras when the protocol VISCA, SAMSUNG/PELCO-D, or CUSTOM is used.

1. Connect the camera (or a third-party central controller) to the lower COM port of the CONTROL interface on the conference controller.
 - Cameras using the VISCA protocol.



- Cameras using the SAMSUNG/PELCO-D protocol.



2. Connect the RS232 port of the camera tracking controller to the upper COM port of the CONTROL interface on the conference controller.
 - Connect to the VIS-CATC-A camera tracking controller through RS232.



3. If the CUSTOM protocol is used (that is, a third-party central controller is used), no longer need to set "Camera map" and "Start Set".
4. If the VISCA or SAMSUNG/PELCO-D protocol is used:
 - a) Enter the "Camera map" submenu, select a camera, set the camera address, and bind the address. For specific operations, please refer to the parameter description in Table 7.2.
 - b) Enter the "Start Set" submenu, and then use the camera remote control, keyboard, or CLEACON software to set the tracking position for each camera one by one. For specific operations, please refer to the parameter description in Table 7.2.